

GAO XDS510 USB2.0 Emulator User Manual

Version 3.241

2007.1

Thank you for choosing our product.

This User Manual is for GAO XDS510 USB2.0 JTAG Emulators. XDS510 USB2.0 JTAG Emulators are modules that may be attached to a PC for hardware engineers and software developers to develop DSP applications.

The following content below is dedicated for the installation procedure for GAO XDS510 emulators.

Notes:

1. *We keep the rights to make any necessary change(s) to the content of this Manual due to product improvement or other reasons, in that case, you Acknowledge and agree that we are not responsible for notifying you any Modification of this manual in the future. It is therefore recommended that Customers contact us for any latest product information.*
2. *The information presented in this manual may contain technical or typographical Errors. We assume no responsibility for any damage or loss caused by those.*
3. *Users acknowledge and agree that GaoTek will not be responsible or liable, Directly or indirectly, for any damage or loss caused by this product.*
4. *GAO Tek's warranty for all products offered is limited solely to free-of-charge depot Repair or replacement, at GAO's discretion, of defective products within thirty (30) Days of GAO's shipment to Buyer.*
5. *Please make sure to read all information presented in this manual before making A decision on the applicability of this product in your system design.*

1. Introduction

The GAO XDS510 USB2.0 Emulator is the latest addition to our high-performance line up of JTAG emulators for Texas Instruments. The main features are:

- Advanced emulation controller for high performance
- Automatically adapts to low-voltage target DSP devices (1.0 V ~ 5.0V)
- Bus-powered USB hence no external powers supply required
- Supports USB 2.0, and USB1.1
- Supports Texas Instruments TMS320 DSP family (VC33, C2000, C5000, C6000)
- Completely compatible with Texas Instruments Code Composer Studio (CCS), Including the latest version of CCS3.3
- Simple Connection with host, Plug-and-Play compatible (no jumpers, no switch Settings)
- Installation does not require either opening or switching off the host computer
- Supports Windows 98/ME/2000/NT/XP (Please install the SP2 for WinXP, SP4 for Win2000)

2. System Requirements

- 233 MHz IBM compatible PCs or Notebooks or 500 MHz Intel Pentium III Processor is recommended to run the CCS
- USB2.0 interface needed for desired USB2.0 performance (not Included)
- 600 MB of free hard-disk space and 64 MB of free RAM
- (CCS IDE) Code Composer Studio™ Integrated Development Environment V1.2 or later

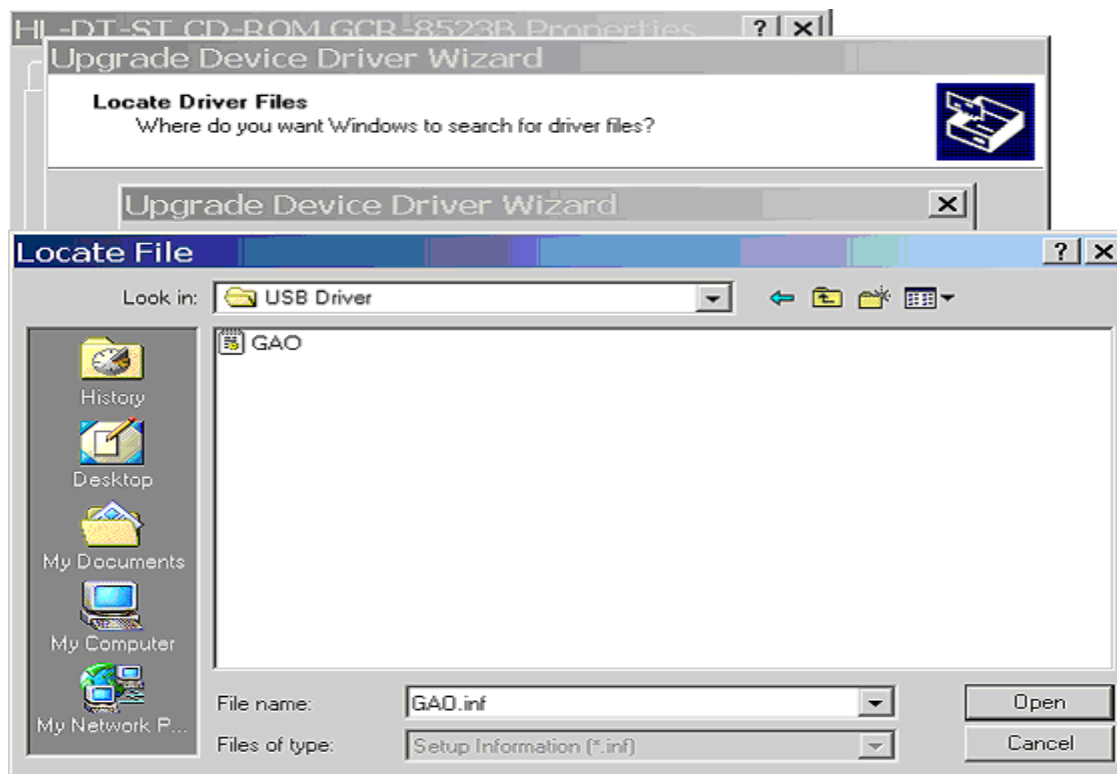
3. Installation Instruction

3.1 Install Driver:

Connect the emulator with PC via USB cable (without connecting with the target board), then the power indicator (green) on the panel of the emulator should be on.

After the system recognizes the new USB device, follow the new device installation wizard to install the driver.



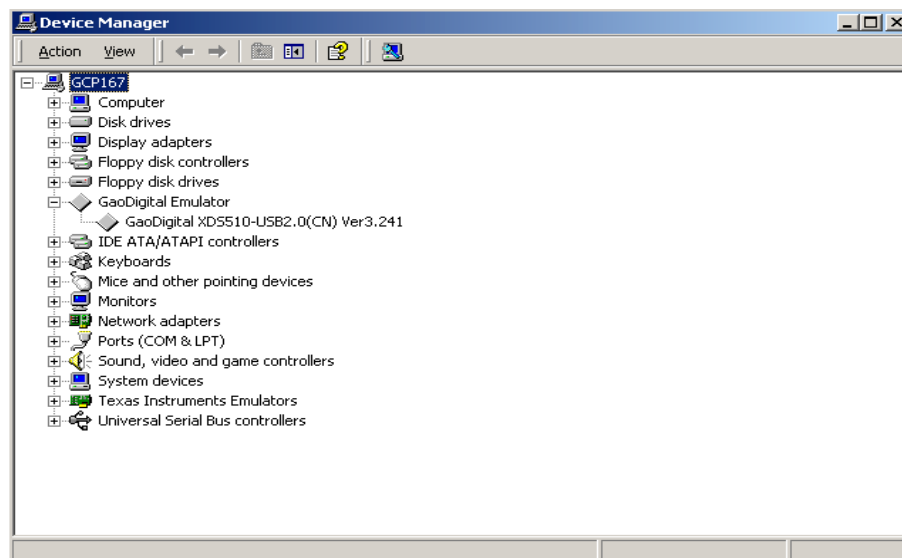


Select "Search for a suitable driver for my device (recommended)", point the path to the directory of "**USB Driver**", choose "**Gao.inf**", then click Open to start installing the driver. (See the picture above)



Click “Finish”, driver setup is completed.

After finish the driver installation, you should see the new device of “GaoDigital XDS510-USB2.0 (CN) Ver3.241” in the Device Manager



Copy the two files of "Gao.cfg" and "Gao.dll" from the folder of “Files for CCS” in the product CD to the folder of “\CCStudio_vXX\cc\bin” (CCStudio_vXX means the default directory of your CCS).

Warning:

The 14-pin JTAG cable must be connected properly, any improper connection may cause permanent damage to the emulator or target board. The No. 6 pin on the socket has been sealed and removed

4. CCS Configuration

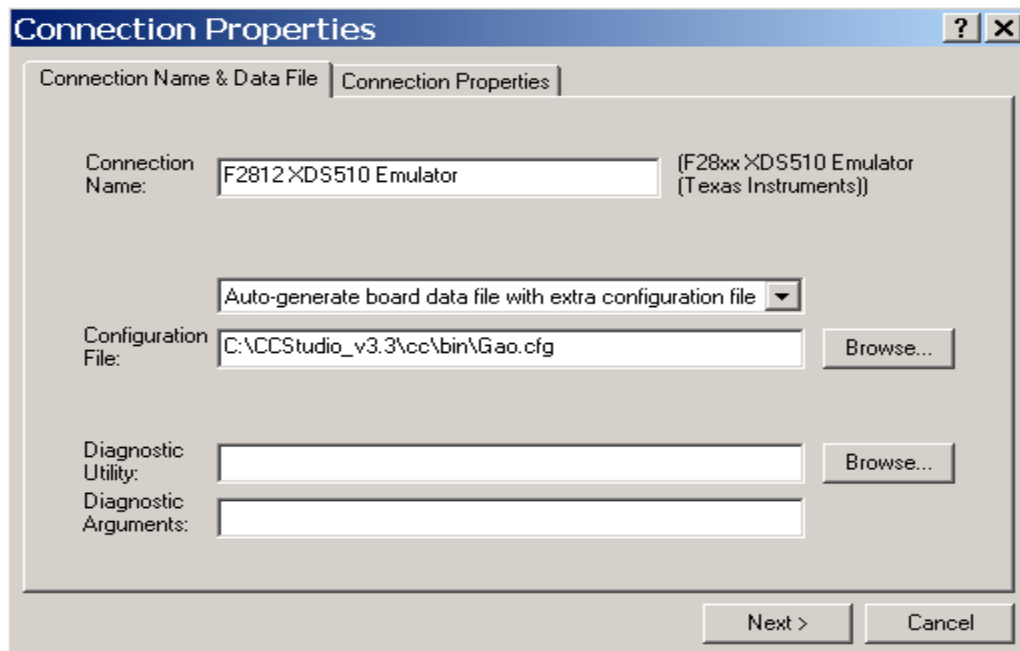
Turn on the target board power, and if emulator's driver is correctly installed, the red light on the panel of the emulator should be ON immediately. Only if the green light (power) and red light (run) are both ON, the CCS is ready to go.

Double click “SetupCCSStudio vXXX” to start the CCS Setup program.

(We are using a TMS320C2812 chip based DSP board as the demo example.)

Click on "F2812 XDS510 Emulator" in the main window, The dialog window should become as below - Right click "F2812 XDS510 Emulator" and click 'Properties' in the pop-up menu,

Then the "Connection Properties" dialog window will pop up. Select "Auto-generate board data file with extra configuration file" in the drag-down Menu, then click "BROWSE".

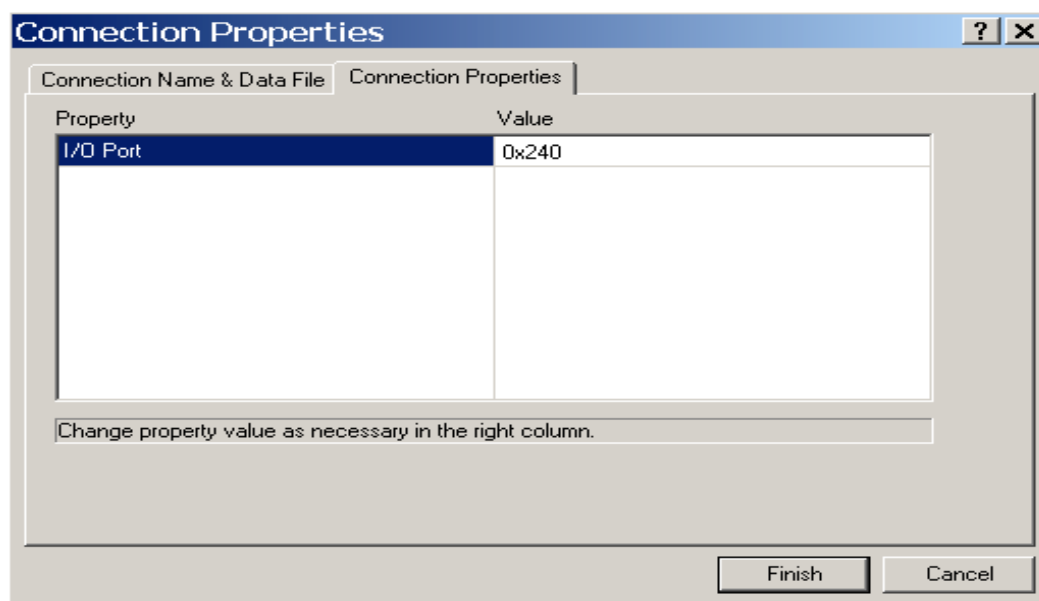


Pick the file of "Gao.cfg" which is in the default directory of C:\CCStudio_vXX\cc\bin.

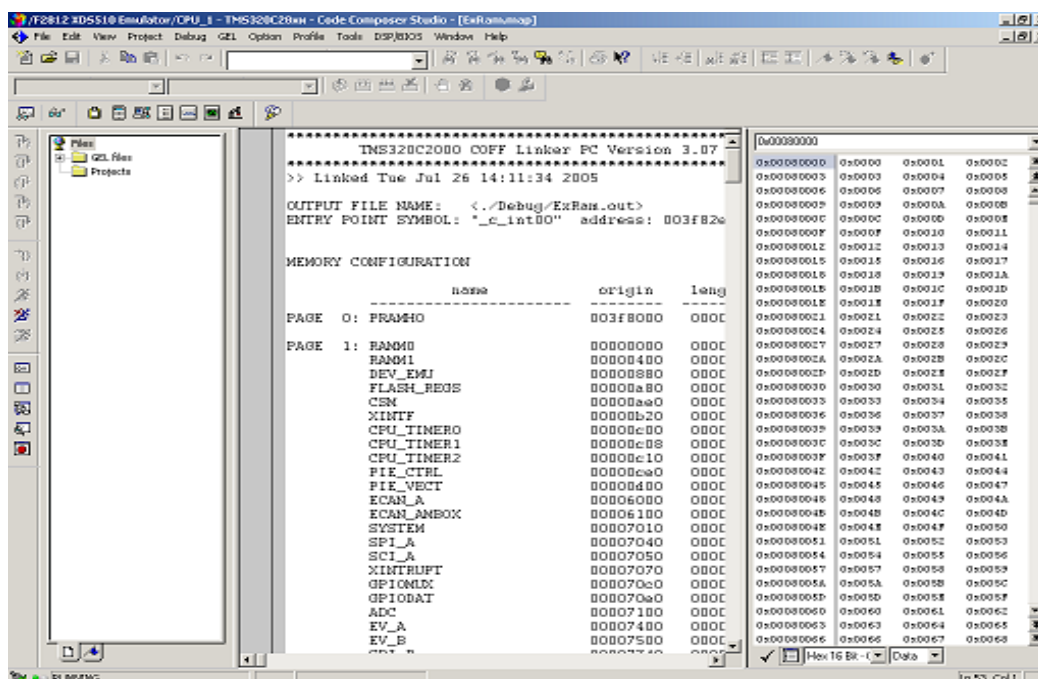
(Note: *If CCS is not installed under the same path, the path should be made proper correction.)*

Click "Next", change I/O port value to **0x240**

(See the picture below)



Click on "Finish" and then click on "Save&Quit" to save the current setup and start your tutorial in CCS.



5. Trouble Shootings

If there was any problem during installation, the following window would appear:



Reasons that may cause the failure:

1. The driver has not been installed properly. Make sure that the driver is Completely installed before starting CCS.
2. The files of "Gao.cfg" and "Gao.dll" in the directory of "Files for CCS" were not Copied to "\CCStudio_vXXX\CC\bin".
3. If all the setup passed, but you are still not able to make your CCS work. Either Improper operation of target board or improper operation of emulator could Cause This. Contact GaoTek for the next diagnostic.

Appendix 1:

Troubleshooting: Cannot enter CCS

1. Check the power supply connection and target board condition.
2. Check if both of the LEDs on the emulator are ON.
3. Check if you can find "GaoDigital XDS510 USB2.0 ver3.24" under The Device Manager.
4. Check if both "Gao.cfg" and "Gao.dll" files exist under "X:\CCStudio_vXX\cc\bin"; (CCStudio_vXX=CCS default install directory).
5. Check if "Gao.cfg" is chosen appropriately in the Property menu.
6. Check if port number is set to 0x 240.
7. If all of above are checked to be correct, turn off the target board power, wait for a moment and then turn it back on.

Appendix 2:

Solution for driver installation failure

Normally when plugging in USB 2.0 emulator and exactly following the procedures in the manual, the driver should be successfully installed. Under certain circumstances, when user gets a yellow "?" or "!" message in the Device Manager, it means the driver are not properly installed. To solve this problem, unplug the emulator, open "Search" in the Windows Start menu. Search for "oem*.inf" files which contain "Gao" content, and then delete the files you found (for example: "oem8.inf").

After that, delete both "C:\WINNT\system32\drivers\Gao1.sys" and "Gao2.sys" files. Re-plugging emulator, go to the Device Manager, use "update" function to re-install the driver.

Hardware Considerations

XDS510USB2.0 JTAG Emulator is an electronic device that directly connects your computer to your target DSP system, therefore it is very important to follow established procedures in the safe handling of electronic devices. Please be advised that basic precautions regarding static electrical discharge and other electrical safety precautions should be followed when connecting or disconnecting the XDS510USB JTAG Emulator to and from the target DSP system or any time electronic devices are handled. Please consult with a technician if you are not sure of these procedures.

Recommended Connection Procedure

1. Remove power from the target DSP system.
2. Remove USB cable connection from the XDS510USB 2.0 JTAG Emulator.
3. Make sure you are grounded and have eliminated all potentials for static Electrical discharge.
4. Connect the XDS510USB 2.0 JTAG Emulator to the target system by using the JTAG ribbon cable that is supplied with the unit. Be sure to check cable orientation.
5. Apply power to the target DSP system.
6. Connect the XDS510USB 2.0 JTAG Emulator to the host computer by using a USB cable.

Recommend Disconnection Procedure

1. Remove USB cable connection from the XDS510USB2.0 Emulator.
2. Remove power from the target DSP system.
3. Make sure you are grounded and have eliminated all potentials for static Electrical discharge.
4. Disconnect the JTAG ribbon cable from the target DSP system.

IMPORTANT NOTE:

It is very important to properly orient the connector on the DSP target system so that the Pin 1 from the JTAG ribbon cable matches the first pin on the DSP target system. Connecting the cable incorrectly may cause damages on your DSP target system or the XDS510USB2.0 JTAG Emulator.
